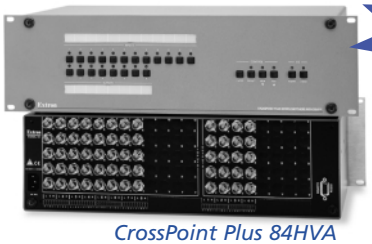
CrossPoint Plus Series with DSVP™

Ultra Wideband Matrix Switchers for RGBS, RGBHV and/or stereo audio

HDTV READY!

SIS™ Simple Instruction Set



CrossPoint Plus 84HVA

CrossPoint Plus 84HV/84HVA

8 x 4 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 84HV	60-337-02
CrossPoint Plus 84HVA	60-337-01

CrossPoint Plus 88HVA

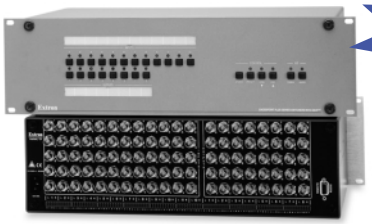
CrossPoint Plus 88HV/88HVA

8 x 8 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 88HV	60-336-02
CrossPoint Plus 88HVA	60-336-01

CrossPoint Plus 124HVA

CrossPoint Plus 124HV/124HVA

12 x 4 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 124HV	60-335-02
CrossPoint Plus 124HVA	60-335-01



CrossPoint Plus 128HVA

CrossPoint Plus 128HV/128HVA

12 x 8 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 128HV	60-334-02
CrossPoint Plus 128HVA	60-334-01

CrossPoint Plus 168HV/168HVA

16 x 8 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 168HV	60-333-02
CrossPoint Plus 168HVA	60-333-01

CrossPoint Plus 1616HVA

CrossPoint Plus 1616HV/1616HVA

16 x 16 Ultra Wideband Matrix Switchers	Part Number
CrossPoint Plus 1616HV	60-332-02
CrossPoint Plus 1616HVA	60-332-01

Extron® Electronics

Copyright © 2001 Extron Electronics. All rights reserved.
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

USA 714.491.1500 (800.633.9876) FAX 714.491.1517
Europe +31.33.453.4040 (+800.3987.6673) FAX +31.33.453.4050
Asia +65.383.4400 FAX +65.383.4664
Japan +81.3.5413.7338 FAX +81.3.3511.7656

CrossPoint Plus Series with DSVP™ (continued)...

DESCRIPTION

Extron's **CrossPoint Plus Series Switchers** are ultra wideband, analog RGBHV matrix switchers. There are six models available: CrossPoint Plus 84 (eight input by four output), CrossPoint Plus 88 (eight input by eight output), CrossPoint Plus 124 (twelve input by four output), CrossPoint Plus 128 (twelve input by eight output), CrossPoint Plus 168 (sixteen input by eight output), and CrossPoint Plus 1616 (sixteen input by sixteen output). Each series offers two models: "HV" models for switching RGBHV signals and "HVA" models for switching RGBHV signals and two channel stereo audio (balanced and unbalanced). All models can also switch RGBS, RGsB, HDTV, component video, S-video, and composite video.

The CrossPoint Plus Series provides the perfect single box solution to high performance routing applications. Each input and output is individually isolated and buffered. These input(s) can be switched to any one or all outputs with virtually no crosstalk or signal noise between channels.

Housed in a rack-mountable, 19" wide enclosure, the CrossPoint Plus Series includes RS-232/422 capability. The unique advantage of the RS-232/422 control is the Extron Simple Instruction Set (SIS™). These instructions are simple to use, easy to read, ASCII command codes. All CrossPoint Plus's come standard with the QuickSwitch Front Panel Controller (QS-FPC™), which allows for touch-of-a-button input and output selection directly from the front panel.

FEATURES

- **RGBHV–** The CrossPoint Plus HV models switch separate horizontal and vertical sync to ensure proper sync polarity, providing a more stable image. All models also switch RGBS, RGsB, HDTV, component video, S-video, and composite video.
- **425MHz (-3dB) ultra-wideband video bandwidth–** Extron's CrossPoint Plus Series provides 425 MHz (-3dB) video bandwidth, fully loaded. Designed for resolutions from 1280 x 1024 and up, the CrossPoint Plus Series maintains original signal integrity. When the best matrix for your particular application is required, the CrossPoint Plus Series delivers the highest performance solution.
- **Digital Sync Validation Processing (DSVP™)–** Extron's exclusive DSVP verifies active sources by scanning all inputs for active sync signals. DSVP then transmits the horizontal and vertical scan rate information to the user via any type of control system using RS-232/422 commands.
- **Channel to channel isolation–** The CrossPoint Plus Series provides excellent isolation between channels and extremely low electromagnetic emissions— perfect for minimizing signal leakage in high security or government environments.
- **I/O grouping–** Allows the matrix to be virtually divided into smaller sub-switchers, making installation and control easier. I/O grouping allows specific outputs to be grouped together— such as those designated for a specific video format.
- **Buffered I/O–** Each input, as well as each output of the CrossPoint Plus Series is individually buffered to provide maximum performance and virtually no crosstalk.
- **Triple-Action Switching™ (RGB delay)–** RGB delay blanks the screen when the matrix switcher switches to a new source. The new sync signals precede the RGB signals, so there is no glitch shown during the transition. The time delay between the RGB and sync signals is user adjustable up to five seconds.
- **QuickSwitch Front Panel Controller (QS-FPC™)–** The QuickSwitch FPC allows for touch-of-a-button input and output selection. Extron's QuickSwitch technology eliminates the learning curve usually associated with switching the inputs and outputs of a matrix switcher by using a tactile front panel button for every input and output.
- **Front panel I/O label windows–** I/O buttons may easily be labeled by any Brother P-Touch labeler or by Extron's label software, which ships with every Extron matrix switcher. Each input and output can be labeled with names, alphanumeric characters, or even color bitmaps for easy and intuitive input and output selection.
- **View I/O mode–** Allows user to easily see which individual inputs and outputs are actively connected. Available from the front panel or RS-232/422 control.
- **Global presets–** Individual I/O configurations may be saved and recalled either from the QuickSwitch front panel or RS-232/422. This time-saving feature allows you to set up I/O configurations and keep them in memory for future use.
- **RS-232/422 control–** A rear panel, RS-232/422 control port provides connection of the CrossPoint Plus Series to a third party control system.
- **Simple Instruction Set (SIS™)–** Extron's SIS is a set of basic ASCII code commands that provide simple control through a third-party control system. Instead of programming in long, obscure strings of code, SIS makes it easy to operate an Extron product using RS-232/422 control.
- **Control software–** For RS-232/422 remote control from a PC, Extron ships our Windows®-based control software with every matrix switcher. This icon-driven software uses a graphical, drag-and-drop interface to make I/O configuration and other customization functions simple and convenient. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may then be saved for future downloading to the matrix switcher.
- **MCP 1000 and MKP 1000 control–** Utilizing the MCP 1000 master control panel and any combination of MCP 1000 slave control panels or MKP 1000 control keypads offers the flexibility to control a CrossPoint Plus Matrix Switcher from a remote location or room. Both remote control options are easy to use and provide tactile buttons for quick selection. Each MCP 1000 panel may be used for one-button switching for a particular output and selecting global presets. Each MKP 1000 keypad may be used to select a different input or select a preset.
- **Audio gain/attenuation (adjustable via RS-232/422 or front panel)–** Extron's CrossPoint Plus Series Switchers allow users to set the level of audio gain or attenuation (-15dB to +9dB). Individual input audio levels may be adjusted so there are no noticeable volume differences between sources.
- **Audio breakaway–** The CrossPoint Plus Series "HVA" models provide the capability to break away an audio signal from its corresponding video signal. Audio breakaway switching can be done via front panel control or RS-232/422 remote.
- **Microprocessor controlled–** All of the features and functions of Extron's CrossPoint Plus Series Switchers are microprocessor controlled for maximum reliability and high performance.
- **Front panel security lock-out–** If a CrossPoint Plus Series Switcher is installed in an unsecured environment where easy access is not desirable, an optional security lock-out feature may be implemented. During lock-out mode, a special button combination is required to operate the front panel controller.
- **Rack mountable–** Extron's CrossPoint Plus Series Switchers are mountable in any conventional 19" wide rack.
- **Internal power supply–** The 100-240 volt, auto-switchable, internal power supply of the CrossPoint Plus Series provides worldwide power compatibility.

Extron® Electronics

Copyright © 2001 Extron Electronics. All rights reserved.
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

USA	714.491.1500 (800.633.9876)	FAX 714.491.1517
Europe	+31.33.453.4040 (+800.3987.6673)	FAX +31.33.453.4050
Asia	+65.383.4400	FAX +65.383.4664
Japan	+81.3.5413.7338	FAX +81.3.3511.7656

CrossPoint Plus Series with DSVP™ (continued)...

SPECIFICATIONS

Video
- Routing
  - 84 Series ..... 8 x 4 matrix
  - 88 Series ..... 8 x 8 matrix
  - 124 Series ..... 12 x 4 matrix
  - 128 Series ..... 12 x 8 matrix
  - 168 Series ..... 16 x 8 matrix
  - 1616 Series ..... 16 x 16 matrix
- Gain ..... Unity
- Bandwidth ..... 425 MHz (-3dB), fully loaded
- 0 - 10 MHz ..... no more than +0.1dB to -0.1dB
- 0 - 130 MHz ..... no more than +6dB to -0.8dB
- Crosstalk ..... -80dB @ 1 MHz, -65dB @ 10 MHz, -55dB @ 30 MHz, -42dB@ 100 MHz
- Switching speed ..... 200 nS (max.)

Video input
- Number/signal type ..... 8, 12, or 16 RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
- Connectors
  - 84/88 Series ..... 8 x 5 BNC female
  - 124/128 Series ..... 12 x 5 BNC female
  - 168/1616 Series ..... 16 x 5 BNC female
- Nominal level ..... Analog — 1.0V p-p
- Minimum/maximum levels ..... Analog — 0.5V to 2.0V p-p with no offset
- Impedance ..... 75 ohms
- Return loss ..... -30dB @ 5 MHz
- Maximum DC offset 1.5V

Video output
- Number/signal type ..... 4, 8, or 16 RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
- Connectors
  - 84/124 Series ..... 4 x 5 BNC female
  - 88/128 Series ..... 8 x 5 BNC female
  - 168 Series ..... 8 x 5 BNC female
  - 1616 Series ..... 16 x 5 BNC female
- Nominal level ..... 1V p-p
- Minimum/maximum level ..... 2V p-p
- Impedance ..... 75 ohms
- Return loss ..... -30dB @ 5 MHz
- DC offset ..... ±5mV maximum
- Switching type ..... Triple-Action™

Sync
- Input type ..... RGBHV, RGBS, RGsB, RsGsBs
- Output type ..... RGBHV, RGBS, RGsB, RsGsBs
- Input level ..... 0.5V to 5.0V p-p, 4.0V p-p normal
- Output level ..... AGC to TTL : 4V to 5V p-p
- Input impedance
  - 84/88/124/128 Series
    - Inputs 1 to 4 ..... 75 or 510 ohms, switchable
    - Inputs 5 to 12 ..... 510 ohms
  - 168/1616 Series
    - Inputs 1, 3, 5, 7 ..... 75 or 510 ohms, switchable
    - Inputs 2, 4, 6, 8, and 9 to 16..510 ohms
- Output impedance ..... 75 ohms
- Polarity ..... Positive or negative (follows input)

Audio— audio models only
- Routing
  - 84 Series ..... 8 x 4 stereo matrix
  - 88 Series ..... 8 x 8 stereo matrix
  - 124 Series ..... 12 x 4 stereo matrix
  - 128 Series ..... 12 x 8 stereo matrix
  - 168 Series ..... 16 x 8 stereo matrix
  - 1616 Series ..... 16 x 16 stereo matrix
- Gain ..... Unbalanced 0dB, balanced +6dB
- Frequency response ..... 20 Hz to 20 kHz, ±0.05dB
- THD + Noise ..... 0.03% @ 1 kHz at rated maximum output drive
- S/N ..... >90dB, balanced, at rated maximum output drive (21dBu)
- Crosstalk ..... >-80dB @ 1 kHz, fully loaded
- Stereo channel separation ..... >-80dB @ 1 kHz
- CMRR ..... >75dB @ 20 Hz to 20 kHz

Audio input — audio models only
- Number/signal type ..... 8, 12, or 16 stereo, balanced/unbalanced
- Connectors ..... 8, 12, or 16 3.5 mm captive screw connectors, 5 pole
- Impedance ..... >10 kohm, balanced/unbalanced, DC coupled
- Maximum level ..... +19.5dBu, (balanced or unbalanced) at stated %THD+N
- Input gain adjustment ..... -15dB to +9dB, adjustable per input by RS-232 or front panel

Audio output — audio models only
- Number/signal type ..... 4, 8, or 16 stereo, balanced/unbalanced
- Connectors ..... 4, 8, or 16 3.5 mm captive screw connectors, 5 pole
- Impedance ..... 50 ohms unbalanced, 100 ohms balanced
- Gain error ..... ±0.1dB channel to channel
- Maximum level (Hi-Z) ..... > +21dBu, balanced or unbalanced at stated %THD+N
- Maximum level (600 ohm) ..... > +15dBm, balanced or unbalanced at stated %THD+N

NOTE: 0dBu = 0.775 volts (RMS).

Control/remote — switcher
- Serial control port ..... 1 RS-232 or RS-422, 9-pin female D connector
- Program control ..... Extron's control program for Windows
  Extron's Simple Instruction Set™ – SIS™

General
- Power ..... 100VAC to 240VAC, 50/60 Hz, internal, auto-switchable
  - 84/88/124/128 ..... 30 watts
  - 168/1616 ..... 36 watts
- Temperature/humidity ..... Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing
  Operating +32° to +104°F (0° to +40°C) / 10% to 90%, non-condensing
- Rack mount ..... Yes, with included parts
- 84/88/124/128 series ..... 3U high
- 168/1616 series ..... 6U high
- Enclosure type ..... Metal
- Enclosure dimensions
- 84/88/124/128 series ..... 5.25" H x 17.0" W x 9.5" D
  13.3 cm H x 43.2 cm W x 24.1 cm D
  (Depth excludes connectors. Width excludes rack ears.)
- 168/1616 series ..... 10.5" H x 17.0" W x 10.1" D
  26.7 cm H x 43.2 cm W x 25.7 cm D
  (Depth excludes connectors. Width excludes rack ears.)
- Shipping weight
  - 84/88/124/128 series ..... 17 lbs (7.7 kg)
    DIM weight: 25
  - 168/1616 series ..... 24 lbs (10.8 kg)
    DIM weight: 34
- Vibration ..... ISTA/NSTA 1A in carton (International Safe Transit Association)
- Approvals ..... UL, CUL, CE, FCC Class A
- MTBF ..... 30,000 hours
- Warranty ..... 2 years parts and labor

Extron® Electronics

Copyright © 2001 Extron Electronics. All rights reserved.
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

USA 714.491.1500 (800.633.9876) FAX 714.491.1517
Europe +31.33.453.4040 (+800.3987.6673) FAX +31.33.453.4050
Asia +65.383.4400 FAX +65.383.4664
Japan +81.3.5413.7338 FAX +81.3.3511.7656